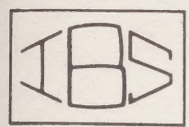


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IBS National Convention



the journal of
college radio
Vol. 17, No. 5 March/April, 1980

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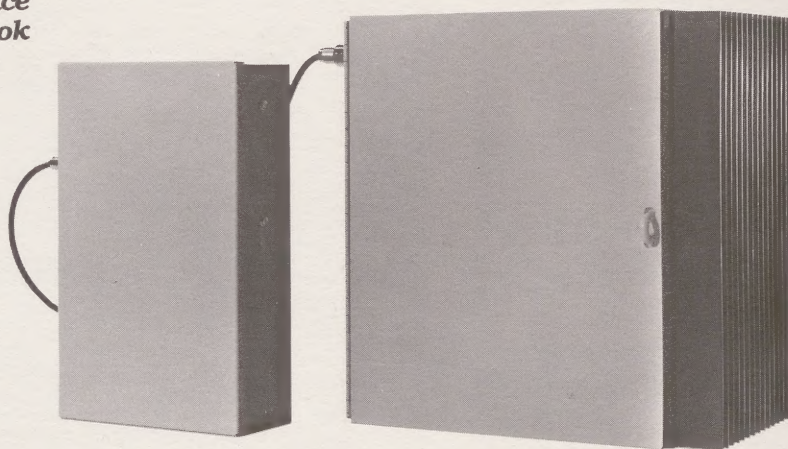


New York City March 1980

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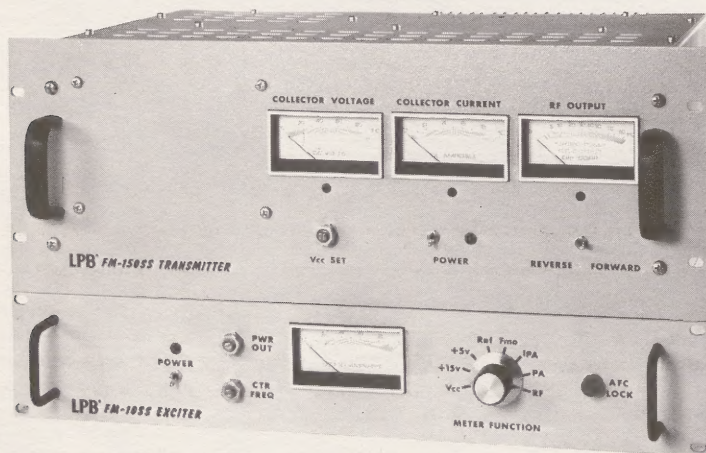
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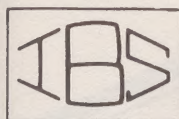
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March/April, 1980
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Editor
JEFF TELLIS

Published by the
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12584

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The JOURNAL OF COLLEGE RADIO is published 5 times per year [January/February, March/April, September, October, November/December] by the Intercollegiate Broadcasting System, Inc. [a non-profit organization].

Address all correspondence to the JOURNAL OF COLLEGE RADIO, Box 592, Vails Gate, N.Y. 12584

The JOURNAL OF COLLEGE RADIO was founded in 1941 by the Intercollegiate Broadcasting System, Inc., using the title IBS Bulletin. The name was changed in 1955 to IBS Newsletter. In 1964 it became College Radio and in 1969, The Journal of College Radio.

Annual subscription price is \$7.50. Single copy price available on request. Outside the U.S.A. add \$1.00 per year for postage.

Send subscription order and changes of address to Circulation, The Journal of College Radio, Box 592, Vails Gate, N.Y. 12584. On changes please include both old and new address plus address label from back of Journal if possible.

from the editor

If you've been to an IBS National Convention before, you're likely to notice some changes this year. One major area involves record company participation.

Many years ago, record company participation principally took the form of a hospitality suite upon which delegates descended looking for free records. That kind of approach often degenerated into a frenzy of crowds, rapidly moving from one company's suite to another, looking for the freebies, which were plentiful. Lots of fun, but it certainly didn't encourage any meaningful dialogue between the company people and the station people.

So, recent years have seen a diminishing of the freebies, a more relaxed and casual atmosphere in the suites, and more participation on panels by the record company representatives. Except for some overcrowded parties and the resulting aftermath, this has seemed to satisfy both delegates and companies.

Suddenly this year, the bottom seems to have dropped out of the record business. Larger companies are swallowing up smaller ones, (or at least taking over their distribution); some companies are going out of business; some companies have made drastic cuts in their promotional departments and budgets; a very few have strengthened their college promotion. All of them are taking a very hard look at every dollar they spend on promotion, and on distribution of promotional copies to radio stations.

Stations have seen the results of this as service is cut back, or, in some cases, eliminated. At the convention, we expect to see fewer companies in attendance, and for those who do attend, the level of participation, (especially costly hospitality functions), will be kept more modest.

Record company people will be looking more toward individual contact with the Music Director of each station, more discussion and feedback, and less straight partying. Music Directors who are looking for improved service, (or even maintaining

current levels), will be making an effort to meet each record company rep and talk with them about their station, and about that company's product.

Not that record service is the only thing on station people's minds. This year has seen over half the 10-watt FM stations in the country apply for power increases to 100-watts or more. Now, they must join existing higher-powered stations in providing service to their communities, and in proving they do through the Ascertainment of Community Needs survey and the annual problems/programs list.

Minimum operating hours for all noncommercial educational FM stations may cause some problems for those at schools who conduct Summer sessions, but where the radio station has usually been off-the-air at that time. The desire to avoid share-time vulnerability may motivate even more stations to go into year 'round operation.

Operator licensing has become more or less a formality, with an "instant" authorization taking effect as soon as you fill-out and sign two short forms, and mail one of them to the FCC for validation.

With all of this going on, many stations have become aware of their FCC obligations more vividly, and many have turned to IBS for help in this area.

At the FCC itself, we've seen the abolition of the Educational Broadcasting Branch and the reassignment of its functions to the Policy and Rules Division. How that will work out remains to be seen, but we are understandably concerned with this move.

Many of these changes will be reflected in various sessions on the convention program, and it's a unique opportunity to clear-up any questions or problems you may have with any of them. Rarely are as many people knowledgeable in these and other related areas gathered in one place at one time, and it's up to you to take advantage of this.

The same goes for carrier-current, which has seen a renewed interest

since the FCC freeze was applied against acceptance of any new 10-watt station applications. Both manufacturers of carrier-current equipment will be represented at the convention, as will stations with whom you can compare experiences. In this issue of JCR, there's an article written by Ludwell Sibley of our staff, discussing some of the ways to clean-up your own carrier-current system.

You'll also find an interesting piece on the alternative approach to programming, rather than the imitative approach. It's something you may already be well into at your station, or you may want to give it some serious consideration.

As station budgets tighten-up at schools and colleges, many will be turning to fund-raising activities for the first time, including the solicitation of underwriting grants. Mike Keith's article on the subject takes away some of the mystery involved and makes it easy to see how it can be done.

For those of you here at the IBS National Convention, your program booklet will give you all of the details on what's going on when and where. And, for those of you who couldn't make it to New York City, well, there's always next year.

At the **Journal of College Radio**, this is our last issue for the current academic year. (We've moved up our publication schedule to start and end earlier in line with the schedules of many schools and colleges).

However, we'll be busy over the next few months getting out a major revision/updating of the IBS Master Handbook and gearing up for the Fall. If you have an interest in writing for JCR, let us know and/or submit your article drafts. We'll look it over and see if we can use it in one of our upcoming issues.

Thanks for your interest, comments, and support for JCR in the past year and remember that both IBS and JCR are as close as your phone and mailbox, so keep in touch and let us know about your ideas, suggestions, needs, and problems.

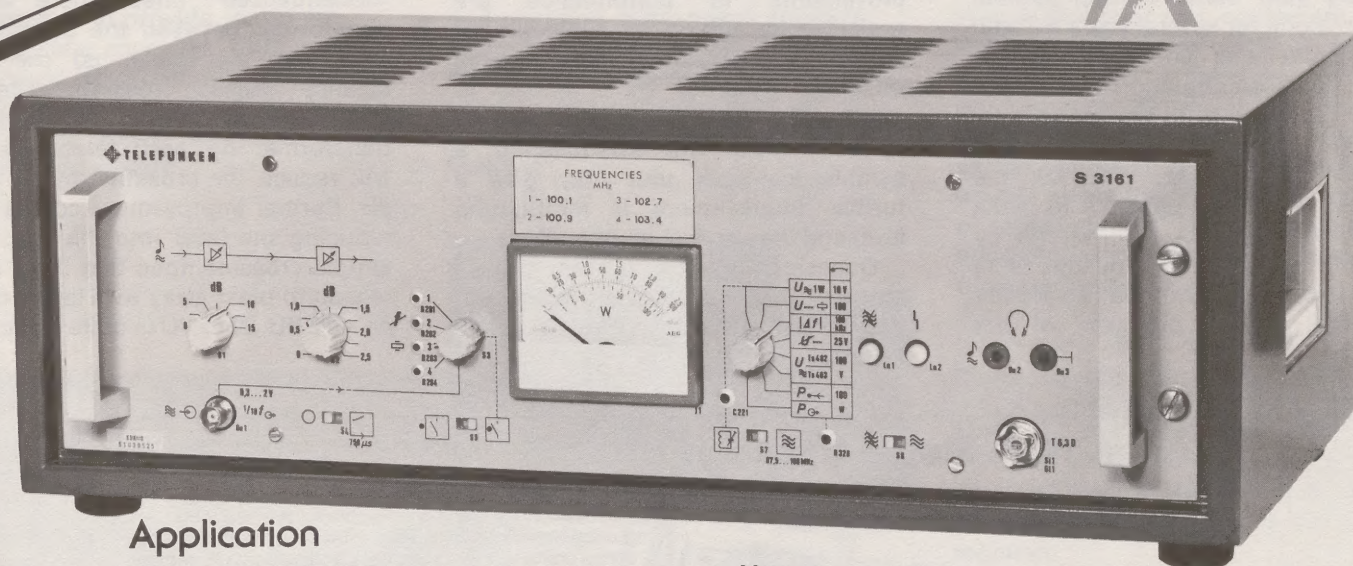
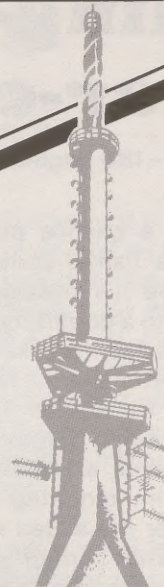
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cleaning-up your carrier-current system

By Ludwell Sibley — IBS Engineering Staff

Now and then a chance presents itself to fix-up a carrier-current installation. Perhaps it's necessary to reactivate service to a dormitory where the transmitter failed last semester and nobody was available to repair it at the time. (All transmitter failures seem to occur during midterms or Finals Week!) Maybe a building addition has gone in, requiring a new feed point to cover the added rooms. Possibly your carrier-current system has run along for several years without a comprehensive checkup. Perhaps the hum crossmodulation is too high or the radiation is pushing the legal limit. Or maybe the thing just never did work quite right. Whatever the reasons, it is often possible to make major improvements in coverage by following the principles described in Sections 52.07-52.37 of the IBS Master Handbook. These are part of the

modernized engineering section of the **MH** sent to all member stations in early 1978. Likewise, the new fourth edition of LPB, Inc.'s "Limited Area Broadcasting" has some useful hints on system cleanup. Radio Systems Design, too, advertises c-c debugging services.

The station's audio chain is almost as important a part of the c-c system as the RF network. Powerful improvements in performance are available by adding an audio limiter and/or compressor, whichever is missing, followed by a lineup of modulation levels throughout. Just as in commercial AM broadcasting, a symmetrical-peak unit may give a further improvement in modulation level and thus in system operation.

Occasionally a c-c system causes crosstalk into telephones on campus, particularly in the interval between

picking up the phone and receiving dial tone. The usual cause for this is use of an audio distribution amplifier having transformerless outputs. Such a unit usually has a low-impedance driver feeding all of the outputs through pairs of resistors. Even if the resistors were half-percent precision types, the resulting balance to ground would be inadequate to use into a plain telephone line. With "nonequalized" lines, there is no transformer between the distributing amp and the cable, so the poor balance causes crosstalk. The addition of a simple 1:1 isolating transformer on each telephone line will reduce the crosstalk by up to 20 dB. Further improvement comes from reducing the level into the line: on a simple cross-campus line there is no reason to blast away with levels of +8 or +12 VU. Zero VU is quite sufficient.

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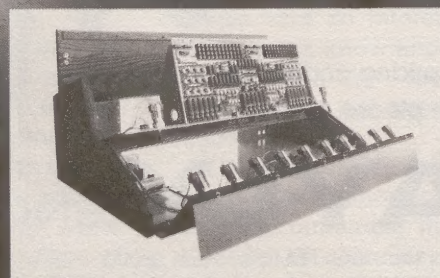
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Carrier current system design and installation can be tricky. Without extensive tests, it's almost impossible to know exactly what equipment is required and how this equipment should be installed to provide maximum, strong, clear coverage. Until now, no one could be certain how the station would sound until after it was installed. This meant risking time and money on an untested system.

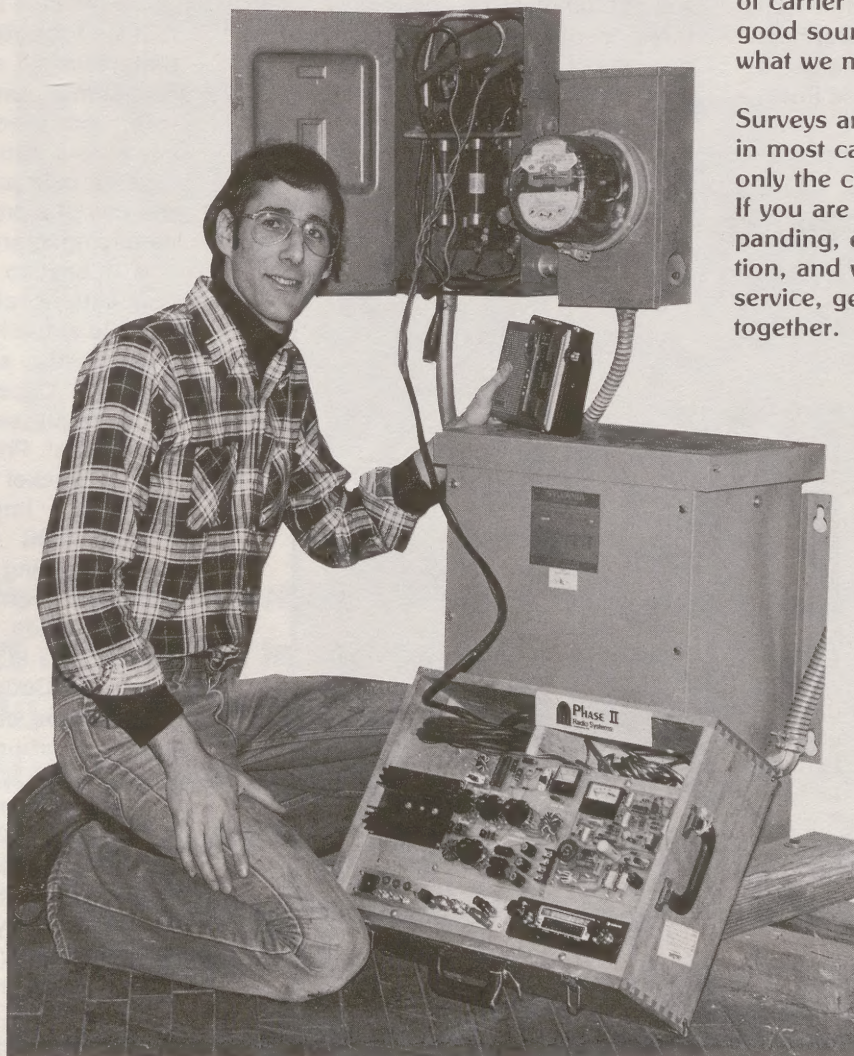
The survey system ends the guess work by providing on site, experienced technicians and sophisticated, specially designed test equipment. During a survey, actual broadcasts are made in every building covered on campus using our exclusive "Match-Box" transmitting unit.

The Match-Box unit, shown below, is a portable broadcast center housing transmitters, audio source, receiving and coupling units, power supplies and tools. The portability of the Match-Box allows hundreds of test transmissions to determine the right system and equipment unique to each building.

Our technician will employ a small arsenal of special technics to obtain superb sound in every building and, you'll actually hear these results at the time of the survey. His detailed report will document what equipment, in what location, and what coupling technics have been employed, so that these can be duplicated on final installation.

Surveys are a good idea because they ensure that your new equipment will perform well. This protects your investment and builds a good reputation for our company. Mostly, surveys build carrier current stations with a signal broadcasters can be proud of. When we talk about the "second generation of carrier current" - good equipment, good sound and this kind of service is what we mean.

Surveys are also a good deal because, in most cases, they are available for only the cost of our traveling expense. If you are serious about building, expanding, or improving your carrier station, and want more than mail order service, get in touch. We'd like to work together.



Most c-c systems use the common two-point nonequalized line, and most such lines are routed without leaving the campus. A modest but easy improvement in frequency response on these lines is obtainable by feeding the line from a 150-ohm source instead of 600 ohms. The response of, say, a 4500-foot cross-campus line is typically down 4 dB at 10 kHz. It will improve roughly 2 dB if the studio end is fed from 150 ohms (via a 4:1 transformer or similar means). It will improve another decibel or so if a 150-ohm termination is also used at the transmitter end. These measures increase the 1-kHz loss of the line, so resetting modulation levels will be necessary.

One popular small c-c transmitter produced in the Sixties, (and an earlier design or two once contained in the Master Handbook), used a transformerless input circuit. Each of the line wires had a resistor to ground. The modulator circuit took its audio between one line wire and ground. This arrangement worked fine on "equalized" lines whose transformers prevented any hum problem, and on most intrabuilding nonequalized lines.

However, longer cross-campus or off-campus lines brought a danger of hum and noise due to the basically unbalanced input circuit. Where these transmitters are in service, an isolating transformer at the receiving end will solve the problem. The noise in question can easily be mistaken for crossmodulation hum.

Before setting out to check the transmitters, an appropriate step is to lift each telephone line going to a transmitter and do a resistance check. With nonequalized lines, the loop resistance will measure roughly 50 to 500 ohms across campus. Anything lower implies a short; an open implies a defective line, (usually disconnected by mistake), or a missing transmitter. Also measure from each wire to the ground. The resistance should be above 100 K unless the transmitter is an oldtimer with transformerless input. Leave a 400-Hz test tone on the line for later setting of 100% modulation.

With a little luck, the transmitter will still be operable, possibly after an infusion of new tubes and a fuse or two. If not, the spare transmitter that your predecessors wisely provided will

have to be swapped for the dead one. Restoration of c-c transmitters is the subject of a separate planned article.

At this point it may be desirable to relocate the transmitter to a more accessible or safer location. Too many transmitters have been "installed" by simply setting them on the basement floor. The IBS Master Handbook, (52.07) has some useful hints on choosing a better location. (Ever see a rig that's been steeped in sewage from a broken pipe?)

If the transmitter shows signs of life, or even if it is being replaced with a solid-state unit, a close inspection of the feed system is required.

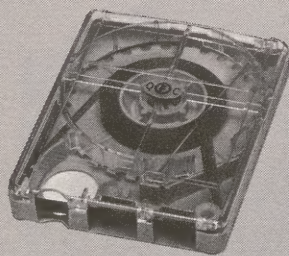
If the installation is one of those pre-1965 jobs with couplers or power splitters using ferrite cores from old TV flyback transformers or, worse, using air-core tuned circuits, replacements are called for. New units can be commercial items or built per IBS Master Handbook 52.33 and 52.37. Each unit modernized this way will add about two decibels to the signal level. Where a splitter feeds a coupler, that's a four-dB improvement, or more that twice as much power delivered. Sometimes, one still finds a 50-ohm line coupled directly through capacitors into the power line with no attempt at impedance matching. Here, the use of a proper coupler gives truly satisfying improvements.

It is best to inspect the power-line connections closely to be sure that what is actually being fed is the three "hot" leads, all working against the neutral. Occasionally an installer accidentally swaps one hot lead with the neutral. Probing the line terminals with a pocket neon tester will verify this item immediately. The tester should light with equal brightness when testing from the "neutral" connection on the coupler to each of the hot leads. A second thing to inspect: it is not permissible for Electrical Code reasons to ground the neutral lead at any point besides the existing ground at the main switchboard.

In older home-built couplers, there may be coupling capacitors of the obsolete paper wax-coated type, or having capacitance of less than 0.1 uF. The old-style capacitors have high RF resistance; undersized ones have high reactance. Replacement with 0.1-uF or 0.25-uF units rated at 600 volts is definitely in order. At one time, it was popular to adjust the RF power

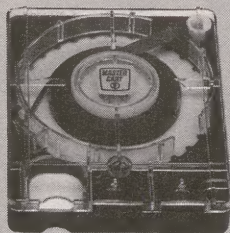
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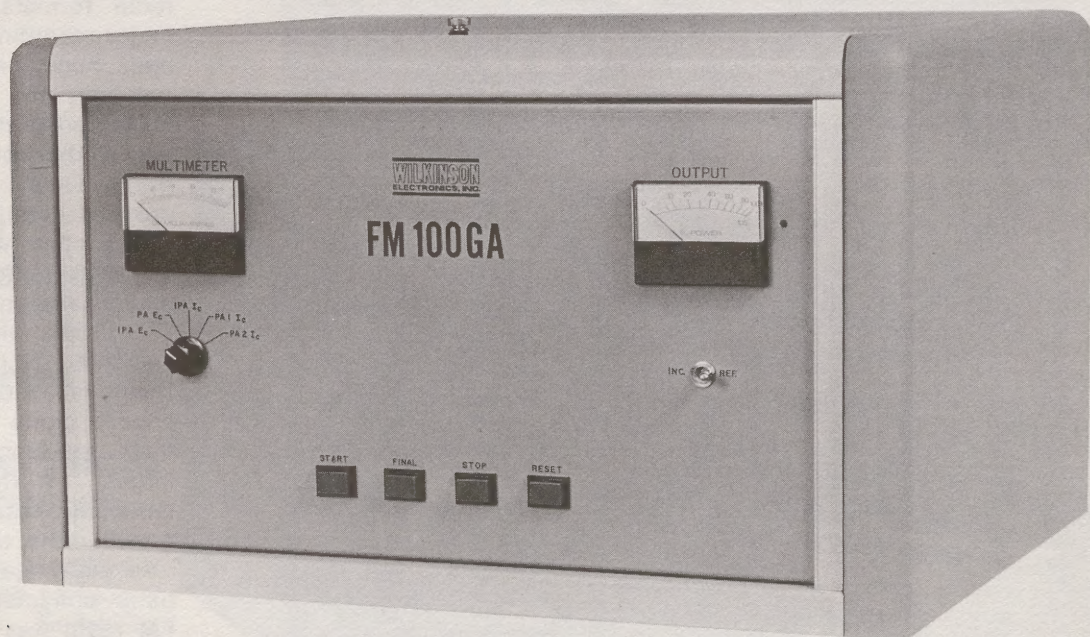
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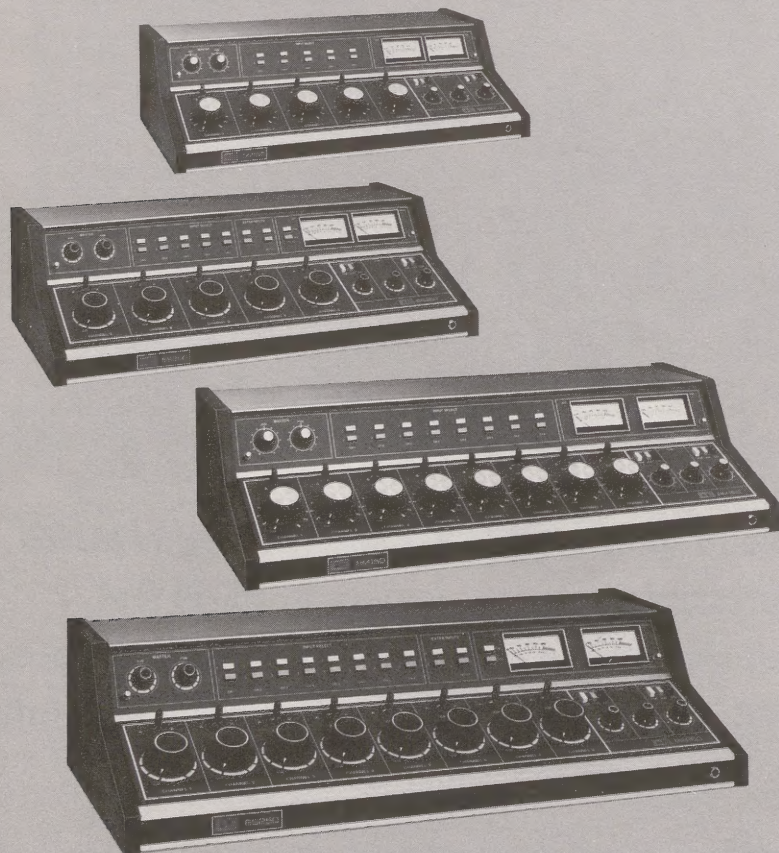
By Steve Cohen
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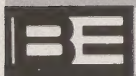
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As we enter a new decade of American mass media, it seems as if the kind of radio that used to have the label, "progressive," is about to become a forgotten dodo of the seventies. Surely, many of us can remember a time when progressive radio stations not only filled FM dials across the country, but were occasionally found on the AM band. During the late sixties and early seventies, the kind of programming we now call "progressive" actually approached the mainstream of American culture, at least enough to make progressive stations into profitable commercial ventures.

However, the record and radio industries were soon to discover the immense financial benefits of sophisticated mass marketing techniques and highly researched radio formats. Radio stations and major recording companies began to reap huge profits at the price of reducing the scope of what they presented to the public through mass media channels. Suddenly, in 1979, the balloon burst. Record sales dropped drastically, and many of the major artists who had been hyped for so long were plagued with dismal album sales and unsuccessful tours.

In 1980, the music industry is searching for new trends. When these trends take root in American culture, it should come as little surprise that their existence is made possible largely by the effort of the few remaining radio stations that stress growth rather than stagnation.

In many ways, the collapse of artistic consciousness in commercial FM radio was a big plus for college radio stations. It gave college stations a chance to stand out as creative islands in a stagnated radio sea. Unfortunately, not all college stations have taken advantage of this great opportunity. While some stations have been reaching new creative heights, many have decided to structure their formats like commercial AOR stations. It is our contention that this is a serious abuse of a non-commercial medium.

In accordance with our beliefs in college radio as a medium which should consider creativity as its highest concern, we have compiled a list of eight college radio priorities. Of course, these priorities do not apply to those college stations that are money-making commercial ventures, since we realize that by nature of their

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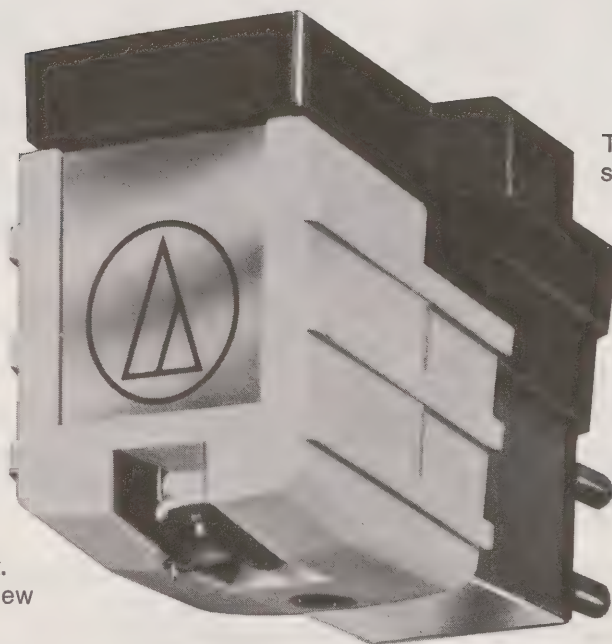
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commercialism, their creative energies are severely limited.

(1) COLLEGE RADIO SHOULD CREATE, NOT IMITATE. This is the big one. It's really pointless for college stations to imitate commercial formats, since commercial stations have the money and personnel to make these formats more effective. Instead, college stations should concentrate on doing what they can do much better than AOR stations, namely experiment with new forms of programming.

One of the most common arguments against this point is that if college stations are to train future commercial DJ's, they should utilize commercial formats. However, breeding the commercial jocks of the future is not the only function of college radio. In fact, as we will see later, it may be a very minor one. In addition, no one has yet been able to prove that free-form radio is a less effective training ground than format radio. If an individual announcer wants to make his or her show sound professional or polished, he or she

can do it in a free-form setting. In short, it is the announcer, not the mode of programming, that brings about professionalism.

(2) COLLEGE RADIO STATIONS SHOULD NOT BE VEHICLES FOR EGO GRATIFICATION.

Ego is one of college radio's greatest enemies. So many college programmers just churn out the hits in order to establish a mass audience, lending a presumed validity to themselves and their stations. Why does a station have to have mass appeal to be considered valid? For example, is it really more gratifying when ten listeners call up to hear the Eagles, or when one listener phones to say that he finds the programming original and stimulating? The latter listener has learned something from the radio. Have we all forgotten how important that is?

(3) COLLEGE PROGRAMMERS SHOULD ENCOURAGE EXPERIMENTATION, ORIGINALITY, AND INNOVATION AMONG THEIR STAFF MEMBERS.

If a radio station is to be creative, its staff members must be free to experiment with programming. If you're a college programmer, you shouldn't expect any of your staffers to be a clone of you or anyone else in your station. Sure, experimentation breeds a lot of mistakes. But its successes more than make up for them. If your staff members feel like important, integral, and creative members of the station, they will provide great programming.

(4) COLLEGE STATIONS SHOULD KEEP IN CLOSE CONTACT WITH SMALL RECORD LABELS.

Small labels, like college radio stations, are the little guys of the industry, and there's a great potential for friendships between them. Independent labels that choose creativity over mass sales need college radio, and if you want to provide a true programming alternative, you need them too. Show an interest in playing their records, and when you play them, let them know

(Continued on Page 16)

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de-mystifying underwriting:

By Michael C. Keith
Communications Instructor
Department of Communications
and Faculty Advisor
WGAO-FM
Dean Junior College
Franklin, MA.

a rewarding step for one college station

To many college stations, underwriting is more of an enigmatic concept than a viable way of actually defraying operating expenses. The feeling persists that there is potentially more to lose than there is to gain from such a venture, despite efforts at past IBS Conventions and in other ways, to rectify this common misapprehension. Each time the idea of seeking underwriting assistance was raised at our station, a sort of mental alarm would sound, warning us of impending danger. "Condition Red Alert! You are a NON-commercial radio station!" a mysterious, subcranial voice would admonish. This would prompt a lengthy argument — most of which was simply unfounded

— as to why we should avoid such an endeavor.

In January, the Communications department at the college offered a course in Broadcast Sales. As the instructor for the course, the thought occurred to me that this would be a good opportunity to involve students in a project designed to engage community businesses in program underwriting. Both the Department Chairman and the Station Manager liked the notion, but that old, foreboding alarm sounded once again. "You are a NON-commercial station! Be careful!" Instead of putting a lid on the issue, as was our usual inclination, we decided to question other college stations in our general vicinity concerning their opinions and ideas regarding underwriting.

Our conversations with members of other non-commercial, educational facilities produced statements with which we were all too familiar. More often than not, our questions were answered with questions. The Faculty Advisor of one college station thought it ill-advised to embark on any underwriting venture while awaiting judgment on a power increase application. He felt that the FCC generally took a dim view of Class D licensees who actively solicited funds in order to defray expenses. It was his intention to wait until his station achieved Class A status before attempting to seek underwriting aid.

At another station, the General Manager admitted that she was simply not familiar with the underwriting process. Although she indicated that the station was making inquiries into the matter, she said that they had no immediate plans to pursue underwriting support. She commented that her station had enough problems already. The members of yet another station echoed the exact sentiments of our internal alarm, "NON-commercial stations shouldn't get involved with businesses. It's dangerous. Be careful!" Other phone

conversations produced similar responses.

We figured it was time to call Washington. We needed to get to the "heart of the matter" if we were going to get anywhere at all. A brief tete-a-tete with Allen Myers of the Educational Broadcasting Branch quickly allayed our doubts and misgivings. Myers assured us that the FCC did **not** take a dim view of college stations that sought underwriting dollars, as long as the proper procedures were observed. He reminded us that underwriting was **not** to be construed as regular radio time sales. Commercials were not being sold. Programs were being subsidized by willing businesses — not bought. In acknowledgement for the monetary consideration a station received for a given program, the name of the contributor could be mentioned on the air, at specified intervals (usually at the beginning and conclusion of the feature), as being the underwriter of the program.

Myers further commented that the use of a so-called "rate card" was not regarded with particular favor by the FCC. But he had no objections to a three column statement listing:

1. The features available for underwriting.
2. The time they are aired.
3. The cost of underwriting the programs.

Myers also indicated that rates could be established at a level designed to cover all costs — talent, materials, utilities, etc. — involved in the presentation of a program. He stated that programs produced by outside sources could be underwritten, in addition to those produced by the station. Myers said that the underwriting of "non-feature" type segments of the broadcast day, such as deejay programs in which recorded music is presented, is also possible. General Underwriting, as it is referred



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to, is explained in 73.503 of the Rules and Regulations. Myers felt that the idea of involving our Broadcast Sales students in an underwriting project that was intended to raise needed funds for our radio facility was a good one. After all, it would serve to provide our Communication Arts majors with some actual field experience, while possibly creating a resource that would allow the station to pay a few bills and, perhaps, expand the scope of its program offerings which would ultimately benefit the community.

The wheels were set in motion. The Broadcast Sales class was comprised of students who were also members of the station's staff. Several were Area Directors, and many had been instrumental in the development of existing programs. During his first few

months as Station Manager, Steve Callahan had also added a number of new Public Affairs and Informational features to the daily broadcast schedule. Actually, there were programs galore that could be legitimately underwritten.

An underwriting statement, containing the pertinent data suggested by Allen Myers, was developed and printed. Next came discussions with students concerning the actual underwriting presentation that would be made to potential supporters. It was carefully emphasized that on-air advertising was not being sold. We were **not** selling anything. Underwriters for programs broadcast over a non-profit, non-commercial station was what was being sought. It was a necessary and important distinction.

Although the town in which the station is located does not have a commercial station, there are literally dozens in adjacent communities. So, many local businesses had become accustomed to the radio time salesperson and, in fact, used the medium for advertising purposes. Our station representatives would have to explain how we were different from other radio stations while, at the same time, enumerating the unique benefits derived in helping to fund broadcasts over WGAO.

In the classroom, the idea was to simulate the atmosphere and circumstances common to those found in radio station sales departments, while always keeping in mind the realities of our own situation — we were a non-commercial, educational

IBS National Convention — Program Highlights

NOTE: These listings are tentative. For final details, including locations and speakers, see the convention program booklet.

FRIDAY, MARCH 21

10:00 a.m. - 3:00 p.m.

Tours of New York Stations*

12:00 Noon - 9:00 p.m.

Registration, Exhibits, Convention Central
Versailles Ballroom & Terrace

3:00 p.m. - 4:30 p.m.

FCC Session
Careers Panel

4:30 p.m. - 6:00 p.m.

100 Watts ERP (or more) - Are You Ready?
Staying at 10 Watts
Jazz Programming, Engineering Resources
Using Networks & Wire Services
Program Guides
Classical Programming
Setting Up and Running a Sales Department
Careers in Engineering
Getting Your Audition Tape Together

6:00 p.m. - 7:30 p.m.

Dinner Break (on your own)

7:30 p.m. - 9:00 p.m.

Programming Philosophy
License Renewal
News Programming
Long & Short Term Planning for Managers
Fund Raising through Grants
Audio Engineering Standards
High School Problems
Staff Motivation
Getting Minority Programs On the Air
Remote & Telco
FM Antenna Systems

9:00 p.m.

Free Time in New York City

SATURDAY, MARCH 22

9:30 a.m. - 11:00 a.m.

Programming Management
FCC Q&A
Management Development for New Managers
Improving Your CC System Design

Station Security

Building an Audio Board

Budgeting

Libel & Radio Journalism

Salesmanship

Iota Beta Sigma Organizing Conclave

Staff Motivation

11:00 a.m. - 12:30 p.m.

Advanced Record Company Relations & Radio Development
News Reporting & Feature Writing
Ascertainment
Interviews with Music People
Carrier Current Engineering
Radio Drama
FCC Engineering Q&A
Sports Broadcasting
Academic Credit & College Radio

12:30 p.m. - 2:00 p.m.

Luncheon

2:00 p.m. - 3:00 p.m.

Special Guest Speaker: Pete Fornatale, WNEW-FM

3:00 p.m. - 4:30 p.m.

Record Company Forums
Management Problems Forum

4:30 p.m. - 6:00 p.m.

Using the Trade Papers
News Programming
Internships
Audition Tapes
Technical Knowledge for Managers
FCC Q&A
Advanced Carrier Current Engineering
EBS
Fund Raising through Promotions
Proof of Performance

6:00 p.m. -

Free Time in New York City

SUNDAY, MARCH 23

10:00 a.m. - 12:00 Noon

Cable FM, other sessions to be announced.


*First-come sign-up basis; stop at IBS office in Versailles Ballroom for details.

JUST BECAUSE YOUR STATION DIDN'T FILE TO INCREASE POWER DOESN'T MEAN YOU CAN'T INCREASE YOUR COVERAGE

If your station elected to stay at 10-watts, chances are there's a frequency change in your future. For many stations, operation on a new channel will mean less interference and increased coverage. But, you must pick the right frequency to reap these benefits and to avoid the problems of moving again if a larger commercial station wants your channel.

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broadcast operation that was interested in raising funds to offset expenses. Students prepared and assembled packets containing materials such as station fact sheets, coverage maps, and program information for distribution to prospective underwriters. Lists of possible underwriters were compiled from the various business directories, yellow pages, and newspapers, and territories were then assigned to members of the "team." Weekly meetings were then conducted to review and discuss the experiences of those individuals involved in the search for program underwriters. As an incentive, station reps are given points for each new underwriter contracted. These points are totalled at the end of the semester, and the persons with the greatest amount are awarded citations for their outstanding efforts, at a special dinner. For most, however, the satisfaction derived in contributing to the stability of the station's operation is ample reward.

Soon after the project was initiated, certain programs were being funded

by local merchants. Students are enjoying the practical experience they gain, and they feel a great sense of accomplishment when signing up a new station supporter. The underwriting money will help pay for additional programming material and equipment and, hopefully, make possible remote broadcasts of college sports events. Due to the financial crunch created by Docket No. 20735, these things had been ruled out for the year. Now they have been made possible, again, through what was once considered a "risky" undertaking.

The fact of the matter is that underwriting is not the boogeyman that many think it is. As long as stations are cognizant of the nature and purpose of underwriting, and adhere to the rules established by the Commission, many benefits can be derived. The July, 1979, "Summary Report" by the IBS stated that, "The main objective now, as with many other stations, is to serve the needs of the local community." Underwriting provides the community with an opportunity to reciprocate.

morning before the Bible Hour. Make public affairs an integral part of your station. Even if you don't have the staff for it, there are plenty of tape services that put out fine pre-recorded programs. Allow your station to serve as a forum for views and political opinions that are often denied access to commercial media, as well as for the presentation of more conventional viewpoints. Areas such as minority issues should be given high priority. If you don't do it, nobody else will.

(6) DEVELOP A SENSE OF HISTORY.

College programmers should be aware of musical trends as well as the development of radio. This can make it a lot easier to determine what direction you want to take. Needless to say, programmers should keep on top of all areas of contemporary music. Even if you can't appreciate the music itself, you should be able to recognize its development. There are lots of books and magazines about every form of music imaginable. Take advantage of them.

(7) COLLEGE RADIO STATIONS SHOULD FILL THE PROGRAMMING VOIDS LEFT BY LOCAL COMMERCIAL RADIO.

In programming their stations, college radio managements should closely examine the nature of radio in their respective communities and concentrate on filling in the gaps. Of course, no one station could possibly fill in **all** the gaps left by commercial radio, but college stations should be concerned with presenting the kind of programming excluded from commercial formats in their areas. This gives each station its own individual and unique sound, besides keeping it two steps in front of commercial radio.

(8) FREEDOM EQUALS RESPONSIBILITY.

Non-commercial college stations have a kind of freedom that is quickly vanishing in our computerized society. Because of this, we have a responsibility to utilize that freedom to its greatest extent through programming innovation. As a college programmer, you have been given a very precious gift, one that you probably won't truly recognize until you no longer have it. Do yourself — and your listeners — a favor, **DON'T WASTE IT!!**

college radio priorities...

(Continued from Page 10)

about it. They'll be more than thankful.

As for the major labels, they don't need you to push their Fleetwood Macs and Donna Summers. What they do need you for is to expose their lesser known and non-mainstream artists to the public. Do it, and tell them about it. You may be surprised at the response you get.

(5) COLLEGE STATIONS SHOULD HAVE A HIGH CONCERN FOR COMMUNITY SERVICE AND PUBLIC AFFAIRS.

There are lots of reasons to do this besides the fact that the FCC requires it. Public Affairs has become an alarmingly minor aspect of commercial radio. Most commercial stations either program "light" public affairs features or put their public affairs on-the-air at times like Sunday

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FCC terminates "Plugola" rulemaking but affirms disclosure requirement in conflict of interest cases

The FCC has terminated its rule making proceeding in Docket No. 14119 on the subject of "plugola."

The commonly accepted distinction between "payola" and "plugola" is that, in payola cases, direct payment of money or other valuable consideration is made to persons in a position to influence the selection of program matter for including certain material in a broadcast, whereas "plugola" involves indirect financial benefits to those in a position to promote a product or service on the air. Thus, if a disc jockey receives undisclosed payment from a record company for playing or praising one of its records, payola exists. However, if the disc jockey receives no direct payment for playing or promoting a record, but himself holds an undisclosed interest in the company which produced the record and he "plugs" the record for the purpose of increasing his profits from the recording company, it's called plugola.

As stated in the Report and Order terminating that proceeding, the FCC believes that any rule on this subject which might be adopted would be complex and extremely hard to administer. They believe that the public interest would be better served by dealing with plugola on a case-by-case basis, as they have for many years.

According to the Commission, the basic principle underlying the statutory provisions on sponsorship identification of broadcast matter and disclosure of conflicts of interest on the part of those engaged in program selection is that, "the public is entitled to know by whom it is persuaded." To this end, Congress adopted Sections 317 and 508 of the Communications Act of 1934, as amended, and stated at the time of its 1960 amendments to the Act on this subject that the Commission itself could, under its rule making powers, require disclosure of plugola practices.

In past years, the Commission has issued a notice of proposed rule making and a "Tentative Report and Order" on this subject. It has reviewed the resulting comments carefully and has given consideration to possible adoption of variously worded rules. However, as stated above, they have concluded that the public interest would be better served by continuance of their policy of dealing with the subject on a case-by-case basis, based upon the principle that the public is entitled to be informed of any otherwise undisclosed private financial interest affecting the selection and presentation of program matter.

The Commission has re-affirmed adherence to these principles, as exemplified in rulings in many prior cases, including the following:

In **Crowell - Collier Broadcasting Corporation**, 14 FCC 2d 358-59 (1966) they stated:

If conflicts of interest in the form of outside economic interests of station personnel are not prohibited, then the personnel involved should be insulated from the process of program selection. When complete insulation cannot be effected, a licensee should take extraordinary measures to insure that no program matter is presented as a result of such practices.

In **Gross Telecasting, Inc.**, 14 FCC 2d 239-40 (1968), the licensee broadcast editorials on a controversial matter in which it had a private financial interest, without revealing the interest. The Commission stated, in part:

Although the licensee's obligation to serve the public interest would not preclude it from editorializing on matters in which it has a significant personal interest as in this case, its decision to do so would impose a responsibility to reveal to the broadcast audience the extent and nature of its private interest.

In **National Broadcasting Co.**, 14

FCC 2d 713 (1968), the Commission found the network at fault for failing to "exercise reasonable diligence to determine whether or when one of its news employees is properly discharging his functions in connection with a matter in which he has a significant private interest which might reasonably be thought to have an effect on the discharge of those functions." (In that case, a commentator who held private interests in certain commercial enterprises which were not publicly disclosed broadcast commentaries favoring those enterprises in connection with then current controversial issues affecting them).

In **KISD, Inc.**, 22 FCC 2d 833 (1970), the Commission imposed a forfeiture for failing to give proper sponsorship identification to, and to log as commercial, announcements promoting dances and concerts staged by the station or its employees. The Commission also faulted the licensee for use of its broadcast facility to gain an unfair competitive advantage over independent promoters of similar events by saturating the station's output (at no cost) with plugs for its own promotions while charging competitive promoters its regular advertising rates.

The FCC has said it expects licensees to exercise reasonable diligence to learn whether their employees or those with whom they deal directly in connection with program matter have private financial interests in matters which may affect the selection of program material. If such conflicts of interest exist, the licensee should insulate the persons with such interests from the program selection process or, if this is impossible, exercise special precautions to make sure that the public is not deceived as to the motivation for the broadcast of the program matter. This is the obligation which Section 317(c) of the Act imposes on licensees with respect to payola, and the FCC believes it also should apply to the indirect benefits involved in plugola since there is no difference in principle between payola and plugola. The Commission does not expect licensees to become guarantors that no undisclosed conflicts of interest exist; only, that they exercise reasonable diligence to ascertain whether they exist and, if they do, to make sure that disclosure of such interests is broadcast.

cleaning-up your carrier-current system...

(Continued from Page 6)

level into a given power feed in a multi-feed system by deliberately using undersized capacitors, as low as 0.002 uF. With modern power splitters, power adjustment at the splitter gives superior results.

The writer has come across improvised couplers having 120 volts exposed to the touch, for example to an unwary janitor. Anything like this is a candidate for immediate replacement.

Even in store-bought couplers, it's best to assure that the fuses and capacitors are still good. An unusually large lightning surge, or just old age, may have made a capacitor short and blow the fuse. A neon tester should show voltage across each capacitor and no voltage across any fuse. Visual inspection of fuses is no help in the typical poorly lighted dorm basement. The fuse wire may have corroded open inside its end cap, yet may look "good." Also be sure that the fuses are the right size — two or three amps is as big as is ever needed.

The installer may have taken the short-cut of feeding just one phase of the power system. In residences with three-phase power, uniform coverage and least hum usually require feeding all three "hot" leads. In smaller buildings with 220-V one-phase systems, a full 220-V is likewise needed. The power feed point should be in the same room as the main switchboard; certainly no further away than a tenth of a wavelength, or about 150 feet, to give a reasonable impedance. Feeding all three phases tends to cut radiation along with crossmodulation. Where cost is critical, a useful compromise may be

to feed two phases, but three remains standard.

It is wise to verify the setting of the transformer tap in each coupler. It is similarly prudent to recheck the capacitor in series with the coupler input, or to add one for the first time. Even if these were properly set at installation, the power system may have been rearranged, or someone may have fiddled with the tap switch. The adjustment procedures given in the manufacturer's instruction manual, or in the IBS Master Handbook (52.37), will assure that the coupler loads the transmitter with something close to 50 ohms. If the coupler fails to act right, it may be desirable to replace it with one of the highly flexible commercial units now available having wide adjustment range.

In accordance with the general air of suspicion needed for a proper cleanup, it is best to open up and inspect every coaxial connector in the system. If your predecessors used a torch to solder the fittings, they may have melted the insulation, giving an intermittent short. If they used a soldering iron, they may have cold-soldered the shield, producing a now-and-then "open."

To deal with cables suspected of being open or shorted, ohmmeter tests should show the following values for resistance of the center conductor:

Cable	Ohms per 100'
RG-58	1.1
RG-59	2.0
RG-8	0.16
RG-11	0.58

In clustered installations, one transmitter feeds several power-line couplers in the same or adjoining buildings. In setting the coupler taps in such cases, one trick may prove helpful. It often happens that two adjacent taps seem to work equally well. In such a case, it is best to choose the higher-impedance tap if the length of the cable from the coupler to the nearest splitter is up to an eighth of a wavelength, or between

3/8 and 5/8, or between 7/8 and 9/8, and so on. Otherwise use the lower tap. This rule applies to all couplers in the cluster. It helps the splitter deliver the power-division ratios that it was designed to produce. For reference, an eighth of a wavelength is the following distances in both solid-dielectric and foam-insulated cable:

Fre- quency	In Solid Cable	In Foam Cable
540 kHz	150'	180'
640	130	150
740	110	130

With couplers of the usual type having nominal taps at 1, 2, 5, 10, and 50 ohms, the worst splitter unbalance that could happen in a practical system with three power feeds intended to receive the same power would occur if (A) the impedances of all three power lines were 3.2 ohms, (B) all three couplers were set to their "5-ohm" taps (giving the same standing-wave ratio as the "2-ohm" tap), and (C) the three lengths of line from the splitter to the couplers were zero, a quarter wave, and a half wave respectively. In this case, the second feed would get about 55% of the transmitter power, while the first and third feeds would each receive around 22%. This is considerably different from the 33% that each would be expected to get. In this example, the power split could be balanced perfectly by following the rule above and setting the second coupler to the "low" (2-ohm) tap.

This rule tends to be more important with c-c systems operating at higher frequencies, simply because a given piece of cable represents a bigger fraction of a wavelength as the frequency goes up. This is a little-known reason to operate at the lowest available frequency. The rule is most important for two- and three-way splitters; splitters with more outputs are less critical.

To illustrate the transformer effect of the line, remember that a very short line has no transformer effect. The transformation is most pronounced at a quarter wavelength (a quarter wave of RG-8 will make a 70-ohm load "look like" 32 ohms at the transmitter end). If the line is longer, approaching a half wave, the transformer effect disappears. It reappears if the line is made closer to 3/4 wavelength, and so on.

A few deficient c-c systems have gone in with simple "T" fittings instead of power splitters, i.e. with no attempt to match impedances at split



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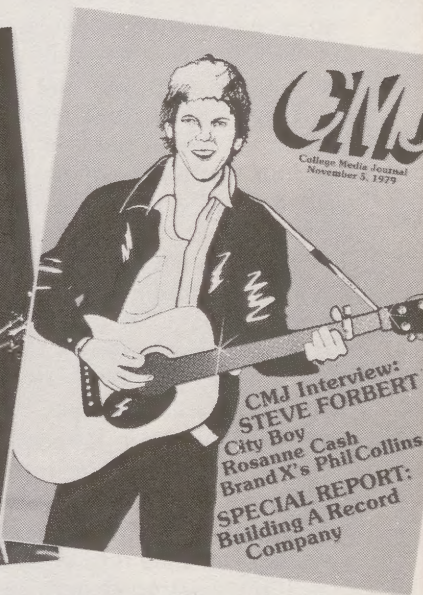
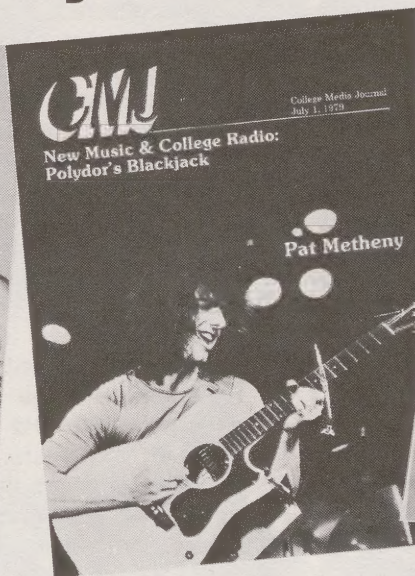
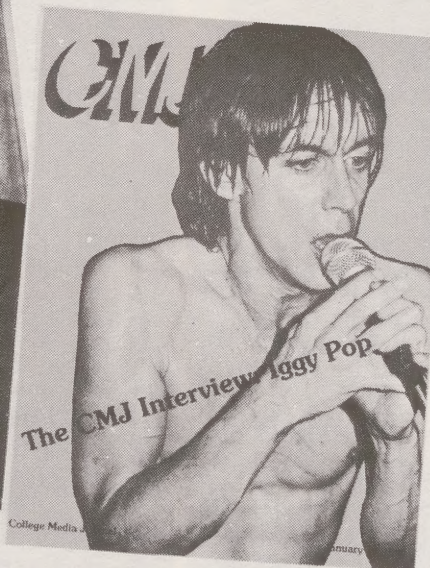
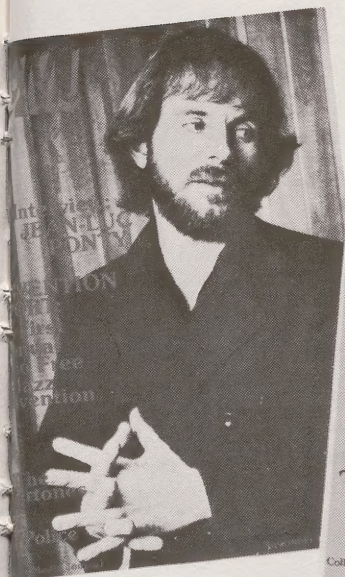
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Univ. of California/Davis

"CMJ is the most helpful journal for getting College Radio and the LP companies together."

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Univ. of North Carolina/
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—Brian Steffen, KPGY
Iowa State University

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points. Both standing-wave ratios and power-division ratios are out of control in such an arrangement. Unless the service is satisfactory in all the buildings fed, a conversion to conventional power splitters is worthwhile. Besides giving a predictable division of power, it will probably extend the life of the transmitter.

So far, we have talked only of cases where the splitters produce equal output powers. This works fine with readily available commercial splitters. But many systems have rather unequal distributions of power just because it was convenient to use an equal-ratio splitter. If the system is delivering, say, four watts per hundred people to residence "A" and only a quarter watt per hundred to "B," it will be worth the effort to rewind the splitter per IBS Master Handbook (52.33) to have unequal outputs.

It may be necessary to add a new power feed point to the present system. This is typically necessary when a new wing is added to an existing dormitory. If the original transformer bank or power board had insufficient capacity, the addition will have its own, thus requiring a new RF feed. If the existing system has four or more points fed from an equal-ratio splitter near the transmitter, it is possible to bridge the new location onto one of the present splitter outputs with a "T" fitting. The transmitter will then work into a load of 40 ohms or more, which is probably within its loading range. Each power feed will get equal power despite this unconventional connection. If there are three or fewer outlets on the present splitter, however, it is advisable to rewind the unit. There is no pressing reason to make the splitter with a separate winding for each output; a simple autoformer as shown in the IBS Master Handbook (52.33) will serve as well, and will be a shade more efficient.

Any splitters housed in manholes should be checked for water damage. Since manhole water is highly corrosive, long immersion may have led to an open winding.

Any shielded-pair cable, telephone drop wire, or surplus field wire still used in the system is an instant candidate for replacement. Even high-loss coaxials like RG-58 are superior to these. Changing a 300-foot piece of field wire to RG-8 will double the power delivered.

By contrast, nonshielded paired wire with all-copper conductors of 22 gauge or larger is probably not worth replacing if the radiation level is satisfactory. The radiation may well be satisfactory if the line is handling only five or ten watts of power and both ends of the cable terminate in a balanced, ungrounded transformer winding.

The frequency that the installer chose may not still be the best one possible. On the West Coast, for example, 880 kHz was a preferred channel for years. Then the FCC allocated a Class II-A slot on 880 to the State of Nebraska, and KRVN (Lexington) moved to that allocation with 50 kilowatts beamed roughly west. Similar changes have occurred elsewhere in the country over the years. If a frequency change looks appealing, 530 kHz is worth considering. It's usable almost everywhere since it has little interfering effect on stations on 540 or above. It is the safest possible frequency as regards radiation, since the FCC "wavelength over two pi" rule is least strict at the bottom of the band. And unwanted impedance transformations in the RF distribution system and power line are least there.

Changing frequency does require new crystals, possible padding capacitors in the transmitter, and, if changing by more than roughly 100 kHz, a recheck of all the power-line

coupler settings.

Whether the frequency is changed or not, it is advisable to check the transmitter frequency. Crystals age over a few years and component values drift. A check of frequency with a counter (six-digit preferred) or with the second-harmonic method described in the IBS Master Handbook (52.07) is in order. This minimizes the potential of interference with licensed stations. It also cuts the chance of interference from other c-c transmitters on the same campus, via the weak coupling possible through the high-voltage distribution system. (Offsetting one transmitter by 10 kHz is the classic cure for this latter problem).

With the RF network revitalized, a check of radiation level is called for. Test methods and corrective measures are described in the IBS Master Handbook (52.40).

The last adjustment is of modulation level. By using a standardized test tone as described in the IBS Master Handbook (52.07) to represent 100% modulation, and lining-up all transmitter gains to meet it, the best possible performance is assured. This is a valuable aid in offsetting any crossmodulation left over after the RF distribution system is cleaned up.

The final step is to document the c-c system. You are doubtless the first person to go through the entire system since it was installed. If there was originally a layout map of the system, it is probably long lost. You will save a lot of future trouble by drawing up a diagram showing the location of each power feed, the length and type of cable feeding it, the expected and measured RF power levels, the coupler tap settings and capacitor sizes, and other pertinent details. Log the resistances of audio lines as measured from the studios. Specify where keys to each transmitter site can be obtained, along with room numbers/names, and key numbers. It is advisable to give a copy to the faculty adviser or a similar permanent staff member for safekeeping.

These measures should bring new life to a neglected c-c system. They usually make it perform better than new. The writer will be happy to discuss these measures with any IBS member-station's people, and is normally reachable at (201) 782-4894 after 6 P.M. EST and on weekends when telephone rates are least.

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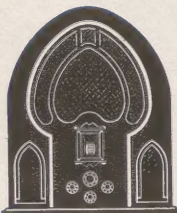
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